

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0001] with the following amended paragraph.

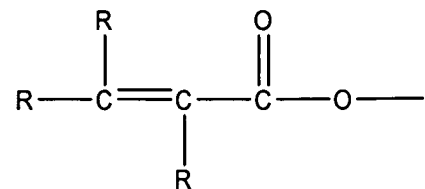
[0001] The present application is related to and claims the priority benefit of U.S. provisional application [[Nos.]] No. 60/425,091 and 60/425,099, ~~each of which~~ was filed on Nov. 8, 2002 and is incorporated herein by reference.

Please replace paragraph [0009] with the following amended paragraph.

[0009] In certain preferred embodiments, the adhesive formulation is acrylic-based, including by way of example the acrylic-based adhesives disclosed in U.S. Pat. No. 5,965,635[[-]] to Rancich et al, which is incorporated herein by reference. In other preferred embodiments the adhesive vinyl ester formulation is based, as described in more detail hereinafter.

Please replace paragraph [0010] with the following amended paragraph.

[0010] In general, however, the adhesive compositions of the present invention include from about 10 wt % to about 90 wt % of polymerizable resin and from about 5 wt % to about 30 wt %[[,]] of reactive multifunctional acrylate. As used herein the term "reactive multifunctional acrylate" refers to compounds that have at least two acrylate functionalities that are reactive, under the conditions used to cure the adhesive, with at least one of the compounds involved in the curing reaction or formed by the curing reaction. As used herein, the term "acrylate functionality" refers to a functional group having the general structure illustrated below:



Please replace paragraph [0016] with the following amended paragraph.

[0016] Ar is a substituted or unsubstituted aryl radical with a valence of at least two,

Please replace paragraph [0025] with the following amended paragraph.

[0025] In another aspect of the present invention, the present composition comprises polymerizable vinyl ester having a glass transition temperature (T_g) of from about ~~80°C-80°C~~ to about ~~130°C-130°C~~, and more preferably from about ~~90°C-90°C~~ to about ~~110°C-110°C~~. The preferred compositions also have a heat diffraction temperature (HDT) of from about ~~90°C-90°C~~ to about ~~130°C-130°C~~, and more preferably from about ~~100°C-100°C~~ to about ~~120°C-120°C~~. In certain preferred embodiments, the vinyl ester has a glass transition temperature of about ~~130°C-130°C~~ and a heat diffraction temperature (HDT) of about ~~130°C-130°C~~.

Please replace paragraph [0027] with the following amended paragraph.

[0027] An important aspect of the present invention is the provision of adhesive compositions, which produce excellent bond strength, particularly at relatively high temperatures. In preferred embodiments, the present adhesive compositions achieve pull out performance at one hour at a temperature of about ~~23°C-23°C~~ of at least about 70 KN, and at about 24 hour at a temperature of ~~23°C-23°C~~ of at least about 80 KN, and after about 24 hours at about ~~80°C-80°C~~ has a pull out force measured at a temperature of ~~80°C-80°C~~ of at least about 50 KN, with pull out force being measured as in the examples hereof.

Please replace paragraph [0057] with the following amended paragraph.

[0057] Ar is a substituted or unsubstituted aryl.

Please replace paragraph [0058] with the following amended paragraph.

[0058] R is independently a substituted or unsubstituted divalent radical derived from alkyl, oxyalkyl, arylalkyl, or oxyalkylaryl, alkyl or arylalkyl,

Please replace paragraph [0063] with the following amended paragraph.

[0063] ~~x, y and z is each independently 0 to 5 provided that x and y can not both be zero, provided that at least one y must not be zero if z is zero, and~~

Please replace paragraph [0070] with the following amended paragraph.

[0070] Ar is a substituted or unsubstituted aromatic radical with a valence of at least two,

Please replace paragraph [0104] with the following amended paragraph.

[0104] A medium weight concrete block approximately 4" x 8" x 16" substantially free of surface moisture is used. Typically, five replicate pull out tests are run for each adhesive composition tested. First, three equally spaced 110 mm deep holes approximately 14 mm wide are drilled in the 8" x 16" side of the concrete block. Then, the holes are cleaned with a brush, with compressed air and a vacuum. An adhesive composition is injected into the drilled holes, and a 1/4"-20 threads per inch x 12 mm stainless steel rod type 304 is inserted into the adhesive-containing hole with a twisting motion. The time before pull out testing (also called cure time) is in the range of about 0.5 hours to about 72 hours, as reported. The stainless steel rod was then connected to an Instron universal tester, Model TTC, Instron Corporation, Canton, Mass., and the rods are pulled at 0.2"/minute until failure. The maximum load and failure type was then recorded. Preferably, in an acceptable anchor composition, the pull out performance at one hour at a temperature of ~~30~~30°C is at least about 55 KN, at about 24 hour at a temperature of ~~30~~30°C is at least about 65 KN, and after about 24 hours at about ~~80~~80°C as measured at a temperature of ~~80~~80°C is at least about 45 KN. Most preferably, the material that has been anchored to the concrete or masonry, or the concrete or masonry itself fails before the adhesive composition. As can be seen from the following examples, the compositions of the present invention are capable of achieving pull out performance at one hour at a temperature of ~~23~~23°C of at least about 75 KN (i.e., 80 KN), at about 24 hours at a temperature of ~~23~~23°C of at least about 90 KN (i.e., about 94 KN),

and after about 24 hours is measured at a temperature of ~~80°C~~ 80°C of at least about 60 KN (i.e., about 62 KN).

Please replace paragraph [0116] with the following amended paragraph.

[0116] Pullout, ~~80°C~~ 80°C (KN)--61.9

Please replace the abstract with the following amended abstract (replacement sheet enclosed herewith):

Disclosed are adhesive compositions ~~include~~ including polymerizable resin, preferably in an amount of from about 10 wt % to about 90 wt % and reactive multifunctional acrylate, preferably in an amount of from about 5 wt % to about 30 wt %. The polymerizable resin can include free radical initiated vinyl addition polymerized resins. The adhesives in preferred embodiments exhibit enhanced bonding strength ~~of the adhesive~~ at high temperatures, such as at about ~~80°C~~ 80°C, and enhanced the fire resistance.